Natural Resources Plan

This chapter establishes policies for municipal actions to protect or restore Key natural resources. It is closely linked to other Plan chapters such as Land Use, Parks and Urban Design.

Major Natural Resources Issues

The major unresolved natural resources issues may be summarized as:

1. **Stream and Lake Water Quality:** What actions should the City take to maintain or improve the quality of water entering the Chippewa and Eau Claire Rivers and Half Moon Lake?
2. **River Flooding:** Should the City acquire additional houses from the floodplain along the Chippewa River or Eau Claire Rivers?
3. **Tree Preservation:** Should the City adopt an ordinance requiring builders to replace lost trees at a certain ratio?
4. **Urban Forest:** What should the City do, if anything, to ensure that trees are planted along the public edge of new streets?
5. **Habitat Restoration:** Where should wildlife habitat and stream restoration be conducted?
6. **Steep Slopes:** Should the City adopt its own development regulations for steep slopes that supplement the slope controls that are mandated by the *Urban Sewer Service Area Plan*?

Several other issues that were identified during the 2005 *Comprehensive Plan* have been resolved. They were listed in the Assessment of Conditions.

Overview of the Natural Resources Plan

The Eau Claire Natural Resources Plan provides guidance to the City in the management of steep slopes, wetlands, floodplains and other natural areas. Some of these locations will be protected through regulations such as zoning and others may be acquired by the public and managed. Water is the focus of the plan since the city is at the confluence of two rivers and includes several creeks.

Please refer to the Land Use Plan for policies on the subject of brownfields or contaminated properties.

Goal: **Protect or improve water quality, river banks, urban forest, wildlife habitat and soils in Eau Claire for the sake of sustainable development, ecological responsibility, quality of life and economic development.**

Summary of Objectives

The objectives of the Natural Resources Plan are:

Objective 1 –Water Resources Management

Maintain or improve the quality of surface water and ground water in and near Eau Claire.

Objective 2 -- River Bank Management

Improve the natural condition of the river banks while minimizing flood hazards

Objective 3 – Urban Forest Management

Protect the remaining undisturbed tracts of old-growth forest in the city and supplement it with new trees

Objective 4 – Wildlife Habitat Management

Protect the key remaining small tracts of wildlife habitat and restore or improve the quality of other locations.

Objective 5 – Soil Resources Management

Safeguard soils by reducing soil erosion, especially near streams and wetlands, and by promoting compact urban growth.

Objective 6 – Coordination, Education and Volunteerism

Work through the Sustainability Commission to coordinate efforts with other units of government and leverage the work of citizen volunteers.

Natural Resources Plan Objectives and Policies

This major section of the Natural Resources Plan describes what the City would like to accomplish regarding sensitive natural resources, particularly water, and how it would like to do so.

Figure 6-1 indicates the general locations of some of the major resources to be protected such as rivers, creeks, floodplains, lakes, wetlands, steep slopes and major wooded areas.

Objective 1 – Water Resources

Protect and improve the quality of surface water and ground water in and near Eau Claire.

Eau Claire is rich in water resources, and protecting those streams and aquifers is a major responsibility. The City has been implementing a 1992 surface water plan and subsequently improved its water quality regulations to conform to state and federal guidelines.

Policies

1. Surface Water Management and Water Quality Protection

The City will continue to apply and enforce the provisions of its Surface Water Management Plan and its Water Pollutant Discharge Elimination System (WPDES) **Municipal Separate Storm Sewer System (MS-4)** permit from the Wisconsin Department of Natural Resources under NR 216 of the Wisconsin Administrative Code throughout the watersheds that drain to the rivers, creeks and lakes.

Consistent with the terms of that permit, the City of Eau Claire was working in 2015 with the Department of Natural Resources to update the City's storm water ordinances to meet the objectives of the DNR's runoff water quality criteria (NR 151), model ordinances (NR 152), and the City's Building, Subdivisions and Zoning Codes.

Water quality in the streams and lakes depends on proper practices throughout the watershed, which in the case of the Chippewa River is 6,630 square miles. The City has jurisdiction over a small portion of that watershed, and will continue to do its part to safeguard water quality. [1]

New outfalls on the river and stream banks will be discouraged unless there is not a practical alternative.

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[1] Many tips and educational materials about maintaining or improving water quality can be found at these locations:

- Rain to Rivers … Wise Choices for Cleaner Water, an education campaign sponsored by the Chippewa Valley Storm Water Forum (www.basineducation). uwex.edu/lowerchip/rain2rivers)
- *Rain to Rivers*: an educational video produced by the City of Eau Claire and available from the Eau Claire Department of Public Works (two versions, 20 minutes or 40 minutes in length).University of Wisconsin Extension Service - Water Resources Education (www.clean-water.uwex.edu)
- US Environmental Protection Agency (www.epa.gov/npdes/stormwater)

The Eau Claire MS4 Permit

The elements of the City's Municipal Separate Storm Sewer System (MS-4) permit address:

- Public education and outreach
- Public participation
- Illicit connections and discharges - detection and elimination
  - Industrial and high risk runoff
  - Toxic spills
- Construction site pollutant control
- Post-construction storm water management
- Pollution Prevention
- Stormwater management as required by NR 151
  - Reduce total suspended solids
  - Catch basins
  - Leaf collection
  - Street sweeping
  - Structural control maintenance
  - Roadway maintenance
  - Nutrient management on City land
  - Flood control devices
  - Trees and planting
  - Structural soils in Urban Areas
- Assessment and monitoring
- A storm sewer system map that identifies location of water management facilities
- An annual report to the Department of Natural Resources

Each city must adopt measurable goals or design objectives to quantify how well it is doing in achieving its minimum control measures.

In 2019, A comprehensive Stormwater Management Plan was completed with recommendations and priorities moving forward. AS part of the plan the City revised and council-approved City ordinances which included performance standards for rate control, construction site erosion control, and water quality treatment for development and redevelopment that are consistent with state requirements and reflect current City practice.

The water quality performance standards included in Title 19.30 are based on annual total suspended sediment (TSS loading). It is recommended that the City consider additional water quality performance standards specifically related to total phosphorous loading. Modeling for TSS and phosphorus is key to monitoring Half Moon Lake which was removed from the TMDL based on the monitoring that the City was conducting. The City is currently in the process of getting a City-wide model build to meet the DNR requirements and standards. The City may also wish to consider more stringent water quality performance standards specific to land-disturbing activities permed in the Half Moon Lake sub watershed, as outlined in the Nine Elements Plan.

However, Chapter 16.36.040 does not apply to the construction of one- and two-family housing.

Public Education

A public education campaign will be continued through the leadership of the Chippewa Valley Storm Water Forum, which is comprised of five cities, two counties, five towns and a village in the Lower Chippewa Basin. The campaign will deliver messages and technical information to citizens, students and public officials about ways to protect water quality through a wide variety of actions and practices. (Refer to the footnote under Surface Water Management.)

The City will install signs that explain the natural and cultural importance of various locations to raise public awareness and support for river valley stewardship.

Best Management Practices

Runoff from rainfall, snow melt or other activities will be collected on-site and treated with site-appropriate "best management practices" (BMPs) for pollutant removal prior to discharging into the public storm sewer system. These include:

- Ponds to detain and filter runoff before it reaches a stream, natural lake or wetland
- Rain gardens
- Bio-filtration devices
- Vegetated swales
- Infiltration areas
- Pervious pavement
- Buried storage vaults
- Oil and water separators.
- Covering dumpster or material storage areas to prevent contact with rainfall
- Nutrient management programs to prevent over-use of fertilizers and/or pesticides
- Site designs that minimize paved areas and areas exposed to vehicular traffic.

Storm water may also be captured, cleansed and released using BMPs located under parking lots.

2. Minimize Disturbance to Environmentally Sensitive Areas

Continue to minimize harm to designated Environmentally Sensitive Areas through the continued application of its zoning ordinance, especially Chapter 18.11, **Floodplain Zoning District**, Chapter 18.12, **Shoreland-Wetlands Overlay Zoning District**, and Chapter 18.45.050, **Site Plans**, and Chapter 17.12.290 of the Subdivision code, **Environmentally Sensitive Areas.**

Chapter 17.12.290 states:

> No development or land disturbance activity shall be allowed within any environmentally sensitive area …unless the owner demonstrates the proposed development or land disturbance activity is expressly allowed under any of the following:
>
> 1. Chapter 18.11, Floodplain Overlay District, for floodplain areas.
> 2. Chapter 18.12, Shoreland-Wetlands Overlay District, for wetland areas.
> 3. The provisions of the *Chippewa Falls - Eau Claire Urban Sewer Service Area Plan,* adopted by reference herein, for all areas of 20 percent or greater slope.

Environmentally Sensitive Areas

According to the Wisconsin Department of Natural Resources, an Environmentally Sensitive Area (ESA) is defined as "portions of the landscape including valuable natural resource features that should be protected from intensive development". ESAs include all lakes, rivers, streams, wetlands, floodways, and certain other significant and unique natural resource features plus a setback or buffer from these features. Furthermore, areas of steep slopes (12 percent or greater) when located wholly or partially within these natural resource features shall also be included as an ESA. Required setbacks from Environmentally Sensitive Areas are:

Table 6-1
Setback Requirements for Environmentally Sensitive Areas

ESA Feature	Setback or Buffer
Navigable waters	100 feet from the ordinary high water mark
Non-navigable waters	25 feet from the top of bank
Channels of concentrated flow	10 feet from the edge of feature
Floodways	No setback or buffer
Wetlands	50 feet from the leeward edge of wetlands > 2 acres
Others	On a case-by-case basis

3. River and Stream Shoreline Protection

Preserve and restore natural conditions to the extent practical, especially the rivers and streams of the city, in order to filter runoff, reduce erosion and provide habitat for stream species.

A natural, vegetated stream corridor and lowland conservancy area should be maintained along the edges of streams or wetlands to minimize erosion, stabilize the bank, protect water quality, maintain water temperature at natural levels and preserve fish and wildlife habitat. The natural vegetation should extend a minimum of 25 feet from the ordinary high water mark of a stream or wetland.

Work with the Department of Natural Resources to protect the banks and floodplain of the Chippewa and Eau Claire Rivers as well as Sherman, Lowes and Otter Creeks by enforcing its current floodplain regulations, using natural stream edge protection techniques as described above and by acquiring additional land for public open space. (See also the Parks and Recreation Plan and the Land Use Plan.)

Use natural means of protecting the edge of the Chippewa and Eau Claire Rivers and other shorelines in locations where wake action needs do not dictate otherwise. The use of stone rip-rap and concrete walls will be minimized because they are unattractive and do not provide any natural habitat or runoff filtration. The aims for restoring stream banks should be to introduce new plantings or protect existing native plants that will provide an integrated series of benefits:

- Stabilize the mechanics of slopes
- Reduce soil erosion
- Improve water quality
- Create and connect wildlife habitat
- Enhance riverbank aesthetics.

Protecting Lowes Creek

The City will give special attention to surface water management and land development in the Lowes Creek watershed. Lowes Creek is classified as a Priority Watershed by the DNR because of its water quality and fish habitat.

Lowes Creek, a trout stream, has benefited from City improvements that catch warm urban surface water runoff then filter it into the ground water where it cools before seeping back to the creek, much to the benefit of the sensitive fish.

The City of Eau Claire will coordinate with the Towns of Brunswick, Washington, Pleasant Valley to consistently apply the protection recommendations contained in the Nonpoint Source Control Plan for the Lowes Creek Priority Watershed Project prepared in 1993 by the Wisconsin Department of Natural Resources.

Practices recommended by the DNR plan for the **Lowes Creek** watershed include:

- Using generous building setbacks
- Adopting and enforcing regulations on the design, construction and maintenance of on-site sewage systems
- Leaving yards in natural vegetation
- Controlling stream bank and gully erosion
- Controlling agricultural manure spreading
- Planting improved natural stream buffers
- Using detention ponds for flood control and water cleansing
- Using infiltration ponds and swales to remove pollutants and reduce temperatures
- Using swales rather than pipes to convey water
- Avoiding direct discharges
- Controlling erosion on construction sites
- Protecting steep slopes
- Building narrow streets
- Applying better subdivision design to slow, divert and reduce discharges
- Attenuating runoff
- Pre-treating runoff
- Monitoring, inspecting and maintaining management practices.

4. Half Moon Lake Water Quality Management

The City will continue to implement the recommendations of the 2020 Report on Half Moon Lake Water Quality Improvement Plan. This plan updates the initial plan from 2002 and an update in 2010.

The plan calls for coordinating four groups – the Wisconsin Department of Natural Resources, City Parks, Recreation and Forestry, City Engineering Department, and the Friends of Half Moon Lake -- to advocate for the changes recommended. The original plan called for relocating the Ski Sprites from Half Moon Lake, cutting weeds to improve swimming and boating experiences, implementing motor boat restrictions, improving stormwater management in the lake watershed, improving the fish habitat and reducing the invasive plants that dominated the lake.

The groups have worked with the US Army Corps of Engineers and the Wisconsin Department of Natural Resources to apply herbicides to reduce Eurasian water milfoil and curly leaf pondweed from the lake. The herbicide treatments conducted in recent years have been very effective at controlling curly leaf pondweed and Eurasian water milfoil.

Alum treatments were applied in 2011, 2017, and 2019 to control the release of phosphorus into the lake and will be continually monitored to measure their effectiveness.

The groups will work in the future to improve community education about the lake, organize clean-up campaigns, improve fish structure, diversify fish populations, complete a recreation trail around the lake, acquire private properties on the lake for public use, and monitor stormwater within the watershed.

5. Stormwater Plan Updates

Update the 2018 *Comprehensive Stormwater Management Plan* by conducting an additional sub-area study in the Otter Creek watershed, which were partially addressed in the 1992 plan, along with a study west of County Highway TT in the Town of Union, which was not included in the 1992 plan but which is a location of planned urbanization under this comprehensive plan.

Review the calculations for the Sherman Creek watershed using more accurate information about current and planned land use.

6. Greenway Design

Consider environmental issues in the design of linear public parks and other open space along streams or bicycle paths. When determining the width of a greenway, consider environmental standards such as slope percentage, erodible slopes, soil conditions, wetlands, floodplain locations and areas of quality woodlands with their size, area and species identified. Carefully align bicycle paths in a greenway so as to minimize disruption of the ecology of the site.

7. Wetland Restoration

Restore filled or degraded wetlands when feasible during redevelopment projects for the sake of water quality, rate control and neighborhood amenity.

Eau Claire has few wetlands because of its sandy soils, and the few that it does have tend to be in stream floodplains.

8. River Floodplain Management

Continue to apply the regulations of its Floodplain Overlay zoning district.

The floodplain zoning district provides standards for land development in the floodway and in the flood fringe sub-districts such as allowable types of land use, allowable coverage, minimum building elevations and building flood-proofing. Land use and site development plans will be drawn to protect the streams and accomplish appropriate waterfront development.

The location of the floodplain district is based on mapped estimates of 100-year and 500-year floodplains prepared by the Federal Emergency Management Administration.

9. River Floodplain Property Acquisition

Acquire the few structures remaining in the 100-year floodplain along the Chippewa River to reduce the potential of damage and to create additional linear park (Greenway). The acquisition should be through voluntary sale as reasonable prices can be negotiated.

One location for such potential acquisition noted in the 2012 *Waterways Plan* are the several houses located east of First Avenue just south of Madison Street, although there are additional endangered locations in Eau Claire. Houses west of Forest Street were previously acquired and removed for those purposes.

10. Groundwater Contamination

Continue to coordinate with the Wisconsin Department of Natural Resources and the United States Environmental Protection Agency to implement the remedial action plan for containing and reducing the groundwater threat to the Eau Claire Well Field.

11. Infiltration Standards

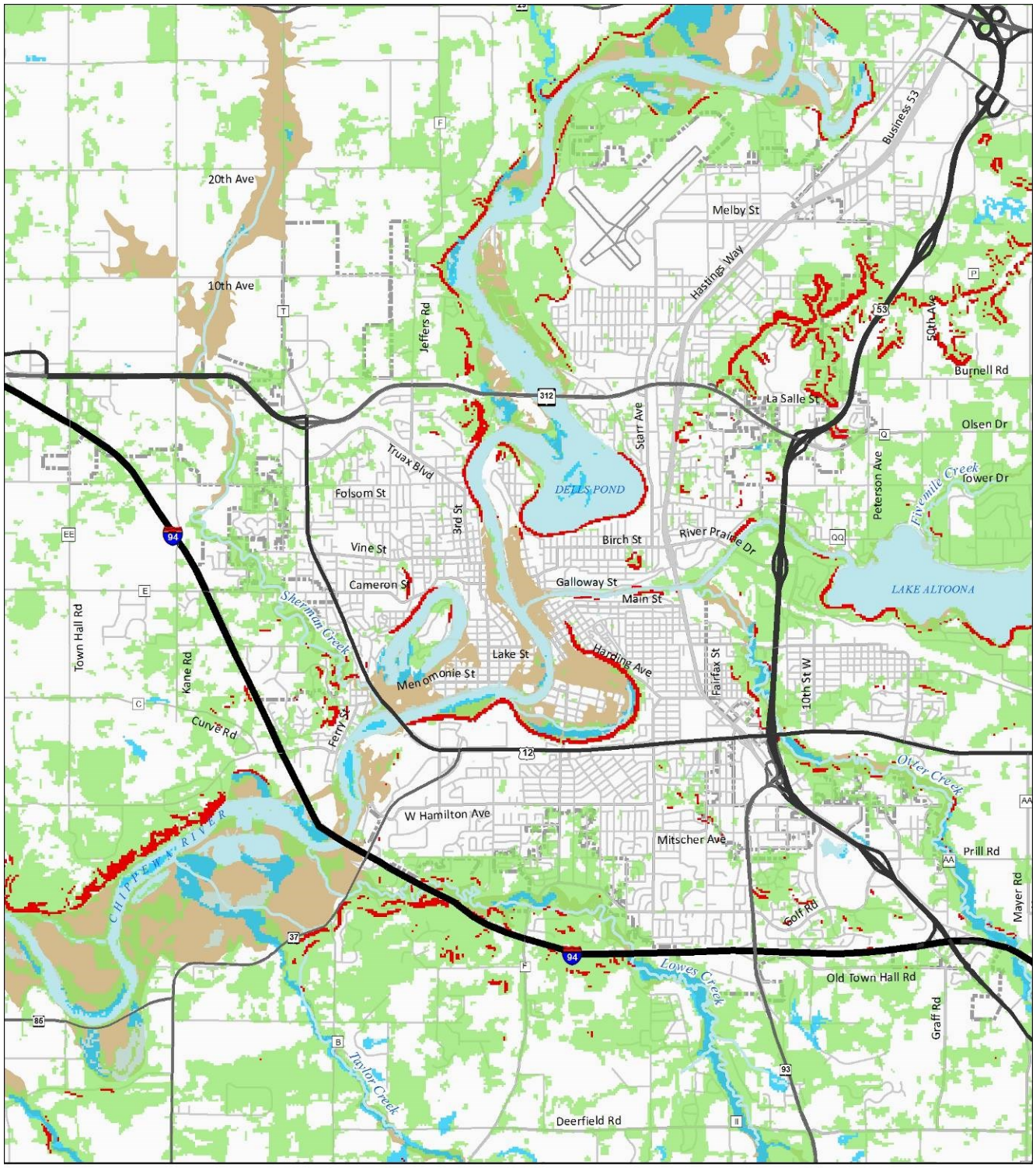
Adopt surface water infiltration standards that are consistent with Wisconsin DNR requirements. Consider the percolation rate of the soil and maintenance; do not increase the potential for groundwater contamination or groundwater mounding.

12. Lawn Fertilizers

Phosphorus in lawn fertilizer is a source of water pollution in Eau Claire and other communities. The City will support efforts by other units of government and/or private advocates to reduce or eliminate this type of lawn fertilizer in the region or the state.

13. Street Ice Control Materials

Continue to use materials other than just salt to control street ice to the extent practical. The City currently uses salt, brine and sand. Salt is very harmful to plants and water quality and all the species that depend on them. It also accelerates rust.



1 Square Mile | 160 Acres

0 5,280 ft.

- Steep Slopes
- Forest
- Wetland
- Streams and Lakes
- Flood Plain

Figure 6-1

Major Natural Resources

Objective 2 –River Bank Management

Improve the natural condition of the river banks while minimizing flood hazards

The Banks of the Chippewa, and to a lesser extent, the Eau Claire Rivers have been abused in ways that are unattractive, contrary to river ecology and not even totally effective in preventing loss of soil from floods. New, more enlightened management is needed.

Policies

1. River Bank Management

The City will us natural methods, including "bio-engineering," as the primary and preferred means of waterway bank stabilization. All bank stabilization plans must be reviewed and approved by the City Engineer and the Wisconsin Department of Natural Resources.

The use of boulders (often called rip-rap) will be limited to situations where engineering analysis indicates that bio-engineering alone will not be sufficient to protect valuable structures such as bridge piers. Boulders covered with a thin layer of topsoil that is stabilized by hardy, low plants is an acceptable bank protection method in locations already "armored," as illustrated by Figure 6-2. The Chippewa River bank at Phoenix Park is an example of this technique. Rip-rap may consist only of natural rock or materials made for that purpose, not concrete or other man-made material. In all cases, the rip-rap should be covered with soil and planted. Please refer to the *Waterways Plan* for a detailed description of this technique.

Existing Armored River Banks

Several banks on the Chippewa and Eau Claire Rivers have been protected from powerful currents that may cause severe erosion and possibly threaten bridge piers or other structures. Such protection consists of deposited boulders or broken concrete, which is effective but unsightly.

The City may work with the DNR to cover with a suitable planting soil and plant those locations to improve their appearance. Soil cover should consist of 8 to 12 inches of a sand and soil blend planted with herbaceous [2] or low woody plants but not trees.

Armored riverbanks above the elevation determined to be flood-prone will remain armored rather than being revised with entirely natural treatments. Removing the boulders, even if they have been judged to be unnecessary, may do more harm than good. Instead, those locations will be covered and planted as shown by Figure 6-2.

Existing Natural River Banks

No management is needed of existing natural riverbanks unless an improved view from the shore is desired.

Riverbanks currently in a natural condition should not be treated with rip-rap unless engineering analysis indicates that is necessary. This is because a bank with native soil

[2] An herbaceous plant is one that has leaves and stems that die down to the soil level at the end of the growing season. They have no persistent woody stem above ground.

will support a more diverse and desirable set of vegetation, and sustain itself better under normal water conditions, than will a slope treated with boulders.

Central Business District River Banks

Shorelines near Graham Avenue, Eau Claire Street or other areas in the Central Business District may be stabilized with a retaining wall or a terrace made of stone and/or concrete.

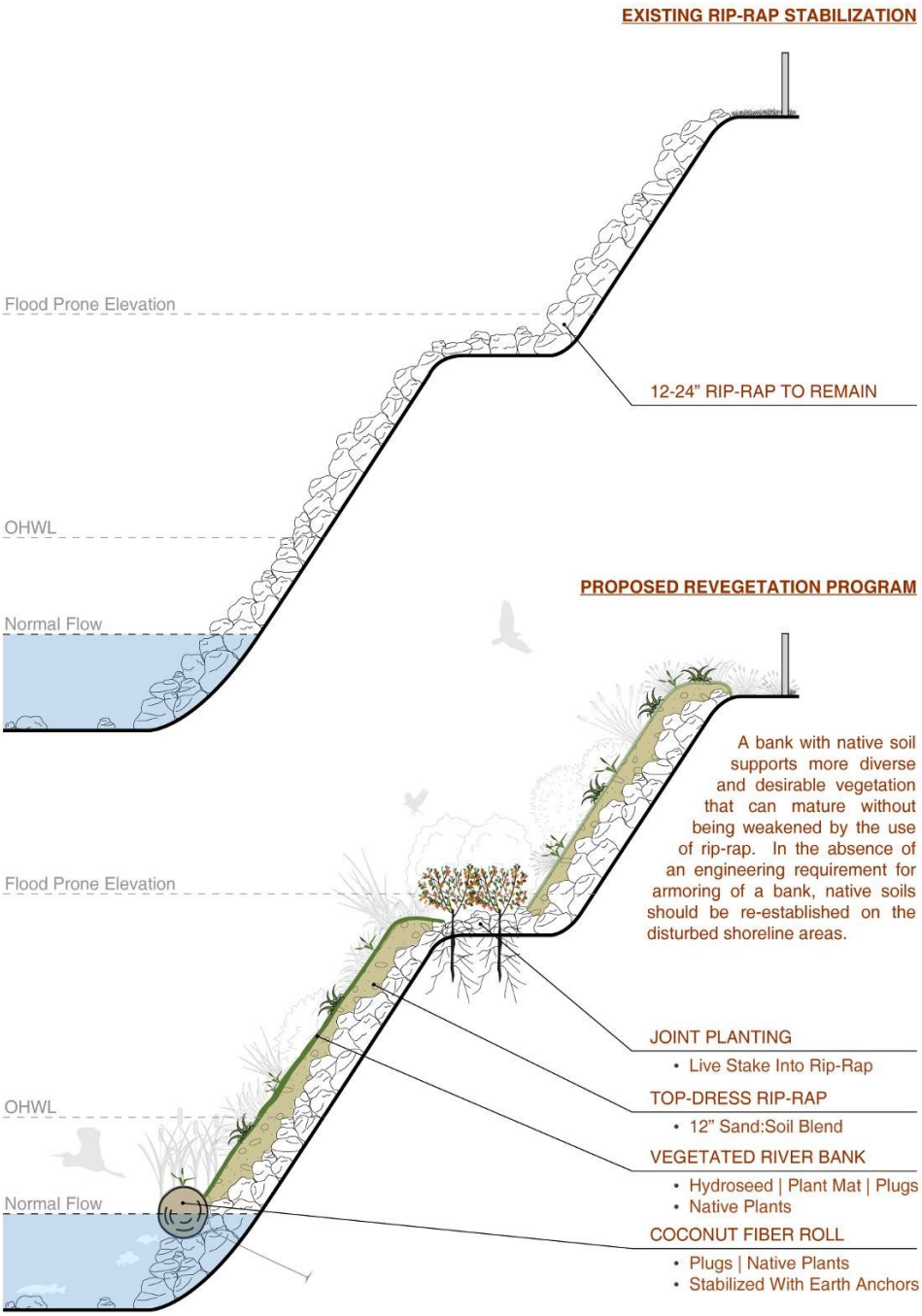


Figure 6-2 -- Remediation for an Armored Riverbank

Objective 3 – Urban Forest Management

Protect the remaining undisturbed tracts of old-growth forest in the city and supplement it with new trees

Nearly all of the original forest has been lost, so there is value in protecting what is left. In addition, the beauty and quality of life in Eau Claire can be enhanced by planting trees along streets, on private property and in parks.

Policies

1. Trees along Public Roads

The City will revisit its ordinance and practice regarding the planting of trees along public streets and roads. The intention will be to adopt methods that ensure that trees will be planted in the public right-of-way of every residential street and major municipal thoroughfare. Emphasize the concept of "the right tree in the right place".

New Streets

For new streets, a continuous row of trees should be planted on both sides. The time frame will depend on the chosen method. Options may include:

- The private sector plants the trees at the same time as the sidewalk, which occurs after the lot is built upon:
  - **i.** House builder installs
  - **ii.** City installs using money put into escrow by the land developer.
- The City furnishes and installs the trees at its own cost:
  - **i.** Cost is assessed to the benefiting property owner
  - **ii.** Cost is entirely borne by the City
  - **iii.** Some combination of the two.

Existing Streets

For existing streets that have gaps in the tree pattern, a long-term campaign should be started that will fill those spaces. A method of paying for this public improvement and a realistic time schedule should be adopted.

Planting Plan

The City Forester and City Planner will propose for Council consideration a city-wide plan of tree species by location with spacing guidelines and accommodations for driveways, intersections, utilities and other trees. Start by preparing a map in GIS of all street trees by species and condition in the City. Species continuity on at least a block-by-block basis is favored because it would be best for appearances even though complete diversity would be the best way to prevent disease transmission; limited continuity seems like a reasonable balance.

2. Steep Wooded Slopes and Wooded Bluff Lines

Prepare and adopt an ordinance limiting the loss of trees on steep slopes and along wooded bluff lines. These features are important to the beauty of the city, its river valley character, soil conservation and water quality.

3. Waterways Forest Management

Trees or shrubs along the rivers and creeks may be removed or thinned according to the order of priority established below:

- Remove invasive plant species so that native plants may flourish
- Remove trees that are in danger of falling
- Remove the lower limbs of existing trees
- Selectively remove individual native trees
- Remove understory plants.

Thinning of the forest by landowners on private property within 40 feet of the bluff line or within 50 feet of the Ordinary High Water Mark in a floodplain is not currently prohibited but should be done judiciously so as to preserve this valuable resource.

Trees or shrubs may currently be removed or thinned on private land above the bluff line to improve views from the shore to the water provided that sufficient vegetative cover remains to soften the view of cars or buildings when viewed from the water or the opposite bank and that disturbed areas are stabilized against erosion. Such thinning is allowed particularly if the obstruction has been caused by invasive species. However, significantly affecting the view from the water shoreline is discouraged. This subject should be studied with the intent of possibly adopting an ordinance that disallows tree removal (except invasives) along any bluff line or on the face of a steep slope. Refer also to Policy #2, above, and to Policies #1 and #2 under Objective 5, Soil Resource Management.

Clearing, raising the canopies or thinning on City or public land to provide or improve sight lines to the water may be allowed only if reviewed and approved by the City Parks Superintendent. Approval from the Wisconsin Department of Natural Resources may also be needed if the site is below the bluff line. Such clearing or thinning should be limited to removing undesirable or invasive species (non-native plants) and dying or other high-risk trees.

Under certain circumstances, a private property owner may be allowed to remove or thin plants on adjacent public land. Such owner should:

- Submit a formal request to the City Parks Department
- Describe the work to be done and the location
- Complete a vegetation survey of the site by an arborist certified by the International Society of Arboriculture (ISA) and/or registered landscape architect.
- Provide a plan for review by the City staff and the Waterways and Parks Commission; such plan must be consistent with the policies and guidelines of this chapter and other guidelines of the ISA
- Provide a plan to replace or replant appropriate native plants where the City has approved a request to thin or remove plants
- Post a cash bond that the City may use or rectify problems that may result
- Indemnify the City from liability that may arise during the work
- Agree in writing to maintain the new plants for a specified period of time

- Agree in writing to pay all costs of the work
- Conduct the work under the supervision of the City Forester.

Removing invasive plant species such as Buckthorn will aid the growth of native species and open views to and from the waterways.

Clear-cutting vegetation along the shoreline is strictly forbidden.

To protect the health of trees that are retained along the waterfront, nearby soil should be disturbed as little as possible and fill should not be placed over root areas.

Maintaining trees, shrubs and ground cover is essential to providing a stable shoreline, protecting water quality, keeping nutrients from the water, preserving native flora, enhancing the natural appearances and preserving fish and wildlife habitat.

It should be noted that tree management around Half Moon Lake is somewhat different than along the rivers. For example, the tree drops described under Fisheries Habitat are the preferred approach to invasive, diseased or dead trees.

Objective 4 – Wildlife Habitat Management

Protect the key remaining small tracts of wildlife habitat and restore or improve the quality of other locations.

Wildlife habitat is limited in this urban area, but key locations such as stream corridors can be protected.

Policies

1. Greenways

The existing and planned public open space along portions of Otter, Lowes and Sherman Creek, the Chippewa and Eau Claire Rivers, and Half Moon Lake can act as corridors for the protection and movement of some species of animals. Thus, try to manage them to retain uninterrupted vegetative cover and a high percentage of native vegetation. To the extent feasible, acquire and protect additional lands through easements along those greenways beyond what may be needed for recreation and trails in order to enhance their function as wildlife corridors.

2. Fisheries Habitat Management

The City will work to enhance the fisheries habitat of the waterways, particularly in Half Moon Lake and Dells Pond. This should include working with the Wisconsin Department of Natural Resources to develop a plan to identify and mark shoreline trees such as invasives, diseased, dead, and those leaning and in danger of falling into the water. Once marked, the plan would provide a schedule to remove the trees from the bank and place them into the water to provide additional habitat for the fishery.

3. Urban Forest

Continue to replace trees that have been lost or removed along City streets and in parks. Prepare an inventory and map for the trees in those locations.

Continue the practice of requiring land developers to install trees in the street right-of-way behind the curb along all residential streets. Locate private utilities (electricity, cable television, gas and telephone services) near the outside of the right-of-way or in an easement just outside the right-of-way to leave the boulevard open for trees.

Also install (or require developers to install) trees along arterial roads, including in commercial or industrial districts according to a comprehensive tree planting plan.

4. Native or Threatened Species

Seek opportunities for the Department of Parks and Recreation to restore native vegetation in portions of some parks. Good locations for this approach include Carson Park, Rod and Gun Park, the Eau Claire River Greenway, and along Sherman or Otter Creek. In certain areas of private development, such as near wetlands, use native vegetation in an attractive and economical manner. Suggest and encourage private site designers to adopt this practice and advise them on appropriate species.

Find un-managed or un-mowed places on public or private land to plant vegetation that attracts and supports threatened species such as Monarch butterflies (i.e., milkweed) or honey bees.

5. Ecological Studies

The City will arrange for professionals to inventory and analyze the vegetation and wildlife found along the shores of the waterways, particularly on those properties that are proposed for acquisition or targeted for park and trail improvements.

The purpose of such studies would be to:

- Identify areas that should be protected
- Identify locations for the removal of invasive species
- Propose remedial actions not specified herein
- Help prepare park or trail development plans
- Recommend actions for the stewardship of the resources.

6. Bird Watching

Work to retain the designation of Eau Claire being a "Bird City Wisconsin", a program of the Wisconsin Bird Conservation Initiative. The local commitment to eco-tourism, river stewardship, Greenway preservation and other habitat protection practices was the basis for the application.

The City will then use bird watching among its efforts to promote tourism and educate the local public about their environment. Studies have shown that attracting bird watchers can be a strong element in a tourism campaign. (See www.birdcitywisconsin.org.)

Objective 5 – Soil Resources Management

Safeguard soils by reducing soil erosion, especially near streams and wetlands, and by promoting compact urban growth.

Policies

1. Steep Slopes

Prepare and adopt an ordinance that regulates development or alteration of steep slopes and coordinate it with the construction site controls under its WPDES stormwater permit.

The steep slope ordinance may help reduce soil erosion, reduce the rate of water runoff and lessen negative visual effects. These rules may be written as a "floating zone," which may be applied wherever slope conditions meet specified standards such as 12 to 20 percent or greater than 20 percent. It will be useful for purposes of education and understanding to show members of the City Plan Commission and City Council several examples of slopes in the 12 to 20 and greater than 20 percent range in natural settings, developed settings and roads.

2. Steep River Bank Slopes

The 2012 *Waterways Plan* identified several sites along the Eau Claire River for possible use as parks and others for urban development or some combination of park and development. Each of these sites is encumbered in whole or part by a slope steeper than 20 percent. Steep slopes such as those are considered undevelopable under the terms of the *Chippewa Falls / Eau Claire Urban Sewer Service Area Plan for 2025* because they meet the definition of an Environmentally Sensitive Area according to the Wisconsin DNR. These environmentally sensitive areas may not be served by public sanitary sewer according to state regulations.

3. Construction Sites

Surface water runoff and wind erosion from construction sites will remain the largest source of soil loss and a problem for water quality at certain times. Thus, continue to enforce requirements for erosion control at such locations.

4. Prime Farmlands

Minimizing the loss of land that is classified by government agencies as prime for agriculture is one of several considerations in this plan. The City of Eau Claire seeks to minimize the loss of this irreplaceable natural resource by promoting compact urban development and discouraging large-lot sprawl outside its borders.

The regulatory techniques written into Town Plans and County zoning (per the Intergovernmental Agreements with the Towns) include:

- Zoning land for an overall base density standard of one single family lot per 10 acres in the Sewer Service Area of the Town unless features were included that facilitate future urban growth with City utilities.
- Clustering unsewered houses onto sites that cannot be economically served with municipal utilities.

Refer also to Policy 5 of Objective 3 in the Land Use Plan.

Objective 6 – Coordination, Education and Volunteerism

Work through the Sustainability Commission to coordinate efforts with other units of government and leverage the work of citizen volunteers.

Policies

1. Advisory Commission on Sustainability

Use the Advisory Commission on Sustainability to coordinate public and private efforts toward sustainability.

The Advisory Commission on Sustainability promotes community-wide sustainability through educational campaigns, initiatives and working with others. The Commission also:

- Prepares an annual work plan that includes many natural resource concerns such as energy, food, waste, hazardous materials, and pollution;
- Implements the Wisconsin Green Tier Legacy Community program's sustainability strategies, which the City joined in 2012;
- Advises the Council on sustainable policy and practices;
- Advises the City Manager on how municipal operations can maximize environmental stewardship;
- Serves an important role for City and community stakeholders to collaborate to create a more sustainable ethic, place and region.

2. Coordination with other Groups

Whenever feasible, coordinate City initiatives with those of other units of government, private organizations and citizen efforts.

Whether through corporate, public, educational or volunteer action, coordinating collective contributions will make a difference in transitioning Eau Claire into a sustainable community.

Governmental units may include the Wisconsin Department of Natural Resources, Eau Claire County Extension, Eau Claire and Chippewa Counties, the City of Altoona and the adjacent Towns.

Private stakeholders include power and energy service companies, waste and recycling firms, the Eau Claire Area Chamber of Commerce Green Business Initiative, and others.

Citizen and non-profit environmental organizations at work in the region include the Chippewa Valley Sierra Club, Eau Claire Citizens' Climate Lobby, Eau Claire Transitioning Group, among others. The University of Wisconsin–Eau Claire and Chippewa Valley Technical College are also driven to educate students and work on projects that protect the environment.

3. Citizen Volunteers

Use citizen volunteers to supplement City staff and to build environmental awareness and commitment.

Plan Action Steps

The City will take the following steps to implement the recommendations of the Natural Resources Plan.

Table 6-2
Natural Resources Plan Actions

Action	Timing
Continue to apply and enforce the provisions of its *Surface Water Management Plan* and its WPDES Municipal Separate Storm Sewer System.	Continuous
Continue public education about water resources through the leadership of the Chippewa Valley Storm Water Forum.	Continuous
Continue to apply protective zoning regulations especially floodplain and shoreland-wetlands and Chapter 17.12.290 of the Subdivision Code.	Continuous
Use natural means to protect river banks.	Continuous
Give special attention to surface water management and land development in the Lowes Creek watershed and apply the recommendations of the Lowes Creek watershed plan.	Continuous
~~Continue to work with the Department of Natural Resources to improve water quality in Half Moon Lake.~~	~~2016 – 2020~~ Plan Completed
Update the *Comprehensive Stormwater Management Plan* by preparing protection plans for the Otter Creek and upper Sherman Creek sub-watersheds.	2021 – 2025
Acquire developed property located in the 100-year floodplains.	2020 – 2025
Prepare and implement a city-wide plan for planting street trees.	~~2016~~ Ongoing
~~Consider adopting an ordinance that regulates development on steep slopes and wooded bluff lines consistent with DNR standards.~~	~~2015 – 2020~~ Completed